THE DIFFERENCES OF SURFACE HARDNESS OF GLASS IONOMER CEMENTS AFTER COATED WITH VARNISH AND BONDING RESIN

ABSTRACT

Background. Water plays an important role in the setting reaction of glass ionomer cements. Excess and shortage of water during the setting will affect the surface hardness of glass ionomer cements. Water content in the glass ionomer cements can be affected by applying a coating material**. Purpose.** The aim of this study was to investigate the differences of surface hardness of glass ionomer cements after coated with varnish and bonding resin. **Method.** Twenty seven glass ionomer cement restorative were made and divided into three groups. Uncoated surface as a control group and the other two were coated with varnish and bonding resin. After stored for 24 hour in a sterile aquades, the surface hardness was measured. **Results.** Uncoated surface produce the highest surface hardness. Surface hardness of glass ionomer cement coated with varnish produced a slight higher surface hardness than coated with bonding resin **Conclusion.** No significant difference was found between surface hardness of glass ionomer cements after coated with varnish and bonding resin

Key Words: Glass ionomer cement, surface hardness, varnish, bonding resin.

PERBEDAAN KEKERASAN PERMUKAAN SEMEN IONOMER KACA SETELAH APLIKASI BAHAN PELAPIS VARNISH DAN BONDING RESIN

ABSTRAK

Latar Belakang. Air memegang peranan penting di dalam reaksi setting semen ionomer kaca. Kontak dengan cairan dan kekurangan air selama setting akan mempengaruhi kekerasan permukaan semen ionomer kaca. Keseimbangan air di dalam semen ionomer kaca dapat dipengaruhi oleh pemberian bahan pelapis. **Tujuan.** Tujuan penelitian ini adalah untuk mengetahui perbedaan kekerasan permukaan semen ionomer kaca setelah aplikasi bahan pelapis varnish dan bonding resin. **Metode.** Dua puluh tujuh tumpatan semen ionomer kaca dibuat dan dibagi menjadi tiga kelompok. Kelompok kontrol tidak diberi bahan pelapis dan dua kelompok yang lain diberi bahan pelapis varnish dan bonding resin. Pengukuran kekerasan permukaan dilakukan setelah sampel direndam dalam akuades steril selama 24 jam. **Hasil.** Semen ionomer kaca tanpa bahan pelapis menghasilkan kekerasan permukaan paling tinggi. Kekerasan permukaan semen ionomer kaca dengan bahan pelapis varnish sedikit lebih tinggi dibandingkan dengan bahan pelapis bonding resin. **Kesimpulan.** Tidak terdapat perbedaan pada kekerasan permukaan semen ionomer kaca setelah pemberian bahan pelapis varnish dan bonding resin.

Kata Kunci: Semen ionomer kaca, kekerasan permukaan, varnish, bonding resin.